



## GRAY PINE

*Pinus sabiniana* Dougl. ex

**Dougl.**

plant symbol = PISA2

Contributed By: USDA, NRCS, National Plant Data Center

### Alternative Names



Charles Webber  
© California Academy of Sciences  
@CalPhotos

foothill pine, bull pine, digger pine, California foothill pine

### Uses

*Ethnobotanic:* The seeds of gray pine were eaten by many California Indian tribes and are still served in Native American homes today. They can be eaten fresh and whole in the raw state, roasted, or pounded into flour and mixed with other types of seeds. The seeds were eaten by the Pomo, Sierra Miwok, Western Mono, Wappo, Salinan, Southern Maidu, Lassik, Costanoan, and Kato, among others. Sierra Miwok men climbed the trees and twisted the green cones off by hand before the seeds were fully developed. These immature cones were roasted for 20 minutes in hot ashes, yielding a brown, sweet syrup. The pitch of the gray pine was used as a medicine by the Western Mono and the branches were made into household utensils for stirring acorn mush. The Costanoan used the pitch as a treatment for rheumatism. The needles were used for thatch, bedding, and floor covering and the bark for house covering by the Sierra Miwok. The branches and roots were used in California Indian basketry and still gathered to a limited extent by contemporary weavers.

*Wildlife:* Numerous birds feed on the seeds of gray pine including the red-shafted flicker, California jay, and band-tailed pigeon. The foliage, bark, and seeds provide food for black bears, Douglas chickarees, and

gray squirrels. Mule and white-tailed deer browse the foliage and twigs.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status, and wetland indicator values.

### Description

*General:* Pine Family (Pinaceae). This native tree reaches 38 m in height with a trunk less than 2 m wide. The gray-green foliage is sparse and it has three needles per bundle. Each needle reaches 9-38 cm in length. The trunk often grows in a crooked fashion and is deeply grooved when mature. The seed cone of gray pine is pendent, 10-28 cm, and opens slowly during the second season, dispersing winged seeds.

### Distribution

It ranges in parts of the California Floristic Province, the western Great Basin and western deserts. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

### Establishment

*Adaptation:* This tree is found in the foothill woodland, northern oak woodland, chaparral, mixed conifer forests and hardwood forests from 150-1500m.

Extract seeds from the cones and gently rub the wings off, and soak them in water for 48 hours, drain them, and thoroughly surface-dry. Put seeds in a plastic bag, without any medium, seal the bag and place them in refrigerated conditions until their chilling treatment begins. Allow three times the air space as seed space in the bag. It is best to sow the seeds in May and therefore, expose the seeds to a chilling treatment of at least sixteen weeks prior to sowing. After cold stratification, plant the seeds in a well-drained coarse potting mix in leach tubes that are narrow but deep with two seeds per tube. These containers should allow roots to reach the air and stop growing and be at least 6 inches deep. Fertilize the containers with a starter formulation of fertilizer with low or zero nitrogen. These containers can be kept in a greenhouse for the first 4 to 6 weeks, receiving 70-degree temperatures during the day. Keep the surface of the soil moist during the germination phase. Next after the first set of cotyledons, water the plants with a deep, thorough soaking and let the plants dry in between watering. Thin the plants down to one per

container and move the pots into a shade-house with 30 percent shade after 4 to 6 weeks. Protect the plants from wind and wildlife. During the main summer growing season use a balanced fertilizer applied to each container. At the end of the growing season use a finisher formulation of fertilizer. Plant the plants in the ground outside in the late winter or early spring in moist soil. Conduct supplemental hand watering or irrigation if the rains are insufficient. Clear weeds in a 3 feet by 3 feet area around the plants to encourage better survival and growth rate. Make sure a protective barrier is placed around the conifers such as vexar tubing to shield them from jack rabbits, deer and other wildlife that may feed on the leaves, stems, and roots.

### Management

The Pomo pruned the trees periodically.

### Cultivars, Improved and Selected Materials (and area of origin)

This species is available from most nurseries within its range that handle native plants. Please check the Vendor Database, expected to be on-line through the PLANTS Web site in 2001 by clicking on Plant Materials.

### References

Barrett, S.A. & E.W. Gifford 1933. *Miwok material culture*. Bulletin of the Public Museum of the City of Milwaukee 2(4):117-376.

Beard, Y.S. 1979. *The Wappo A Report*. Malki Museum Press. Morongo Indian Reservation, Banning, California.

Bocek, B.R. 1984. *Ethnobotany of Costanoan Indians, California, based on collections by John P. Harrington*. Economic Botany 38(2):240-255.

CalPhotos 2000. *Pinus sabiniana*. <[http://elib.cs.berkeley.edu/cgi/img\\_query?seq\\_num=16975&one=T](http://elib.cs.berkeley.edu/cgi/img_query?seq_num=16975&one=T)>. Version: 000229. CalFlora, Inc., Berkeley, California.

Essene, F. 1942. *Culture element distributions: XXI Round Valley*. Anthropological Records 8(1):1-97.

Goode, R.W. 1992. *Cultural traditions endangered*. Unpublished report.

Goodrich, J., C. Lawson, & V. P. Lawson *Kashaya Pomo plants*. American Indian Studies Center. University of California, Los Angeles, California.

Griffin, J.R. 1993. *Pinus*. Pages 117-120 IN: *The Jepson manual: Higher plants of California*. J.C. Hickman (ed.). University of California Press, Berkeley, California.

Littlejohn, H.W. 1928. *Nisenan geography*. Unpublished manuscript in the Bancroft Library, University of California, Berkeley, California.

Martin, A.C., H.S. Zim, & A.L. Nelson 1951. *American wildlife and plants: A guide to wildlife food habits*. Dover Publications, New York, New York.

Peri, D.W., S.M. Patterson, & J.L. Goodrich 1982. *Ethnobotanical mitigation Warm Springs Dam-Lake Sonoma California*. Unpublished report prepared for the U.S. Army Corps of Engineers, San Francisco District, San Francisco, California.

USDA, NRCS 2000. *The PLANTS database*. <<http://plants.usda.gov>>. Version: 000229. National Plant Data Center, Baton Rouge, Louisiana.

### Prepared By and Species Coordinator

*M. Kat Anderson*

USDA, NRCS, National Plant Data Center  
c/o Department of Environmental Horticulture,  
University of California, Davis, California

Edited 05dec00.jsp

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS <<http://plants.usda.gov>> and Plant Materials Program Web sites <<http://Plant-Materials.nrcs.usda.gov>>.

*The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).*

*To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.*